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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,308

01/21/2004

Rolf Nuchter

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

12/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,308

Applicant(s)

NUCHTER, ROLF

Examiner

Jeffrey M. Rutkowski

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/21/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 3 is objected to under 37 CFR 1.83(a) because it fails to show the power amplifier, transmitter, transmitting station and telecommunications system as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3 and 5-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Afrashteh et al. (US Pat 5,426,641), hereinafter referred to as Afrashteh.

5. For **claims 1 and 2**, Afrashteh teaches during “off” periods (null power time slots) of a frame, a drain current is measured and controlled by adjusting a gate voltage [**col. 15 lines 10-15**]. An internal clock is used to determine when an amplifier should be turned “off” (knowledge of when null power time slots occur) after a transmission timeslot to conserve power [**col. 15 lines 60-65**]. A quiescent drain current measurement is used to check the bias of an amplifier. If the quiescent drain current is too high the bias of the amplifier is adjusted towards a cutoff voltage. Conversely, if the quiescent drain current is too low the bias of the amplifier is adjusted away from a cutoff voltage. A microprocessor compares the quiescent drain current (actual operating point) to a desired value (set operating point). The results of the comparison are then sent to a bias control circuit [**col. 16 lines 4-28**]. Figure 3 shows the steps are carried out during two separate null timeslots.

6. For **claim 3**, which depends from **claim 1**, Figure 3 of Afrashteh shows the null power timeslots within a frame are consecutive.

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7. For **claim 5**, which depends from **claim 1**, Afrashteh teaches changes in temperature requires the bias point to be readjusted [col. 14 line 66 to col. 15 line 3].
8. For **claim 6**, which depends from **claim 1**, Afrashteh teaches the bias is the gate voltage of an amplifier [col. 16 line 20].
9. For **claims 7 and 8**, which depend from **claims 1 and 7 respectively**, Afrashteh anticipates waiting until a transistor has reached a steady state temperature by disclosing the bias adjustment does not start until a few timeslots after the transmission timeslot [figure 3].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Afrashteh in view of Hirvilampi (US Pat 6,351,189).

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13. For **claim 4**, which depends from **claim 1**, Afrashteh does not teach the use of control loops. Hirvilampi teaches the control loop limitation absent from the teachings of Afrashteh by disclosing an auto-bias system that uses a feedback loop (control loop) to adjust the bias of an amplifier between transmission periods (null timeslots) [abstract]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a control loop in Afrashteh's invention to ensure a signal is properly amplified [Hirvilampi, col. 5 lines 5-10].

14. **Claims 9-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Afrashteh in view of Domino et al. (US Pat 6,259,752), hereinafter referred to as Domino.

15. For **claims 9 and 10**, which depend from **claims 1 and 9 respectively**, Afrashteh teaches a combination made up of a gate bias control unit **204** (hardware) and a microprocessor **210** (computer program) perform the **claim 1** method steps. Afrashteh does not teach a single control unit carries out the method steps of **claim 1**. Domino teaches the single control unit limitation absent from the teachings of Afrashteh by disclosing steps performed by a Digital Signal Processor (DSP), which includes adjusting a bias value [col. 5 line 56 to col. 7 line 40 and figures 1, 3]. It would have been obvious to a person of ordinary skill in the art at the time of the invention use a single software application to implement the method steps of **claim 1** in Afrashteh's invention since DSP chips are more powerful than general-purpose microprocessors via being more application specific.

16. For **claims 11 and 12**, Afrashteh teaches a power amplifier is made up of a high gain transistor (MESFET), a resistor **211** (shunt) connected in series with a drain circuit **205** and a microprocessor **210** (controlling unit) [col. 15 lines 30-35, col. 16 lines 4-6 and figure 2]. As

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discussed in the rejection of **claim 1**, Afrashteh teaches the microprocessor performs deviation detection. The adjustment of the bias is performed by the gate bias control unit **204 [col. 16 lines 10-28]**, not the microprocessor. Domino teaches the adjustment of bias by a controlling unit limitation absent from the teachings of Afrashteh by disclosing a DSP chip that processes data and adjusts a bias value **[col. 7 lines 7-12, 25-30 and figure 1]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention use a single software application to implement the method steps of **claim 1** in Afrashteh's invention since DSP chips are more powerful than general-purpose microprocessors via being more application specific.

17. For **claims 13-15**, which depend from **claims 11 and 13**, Afrashteh teaches an amplifier used in a radio network environment (telecommunication system). The telecommunications system includes portables (radio transmitters) and base stations (radio transmitting base station) **[figure 1]**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

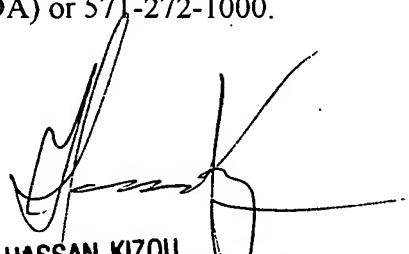
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
12/05/2007

JMR



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